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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/675,195	09/30/2003	Jan Wielsma	WIELSMA 3	5681
47396	7590	01/18/2005	EXAMINER	
HITT GAINES, PC AGERE SYSTEMS INC. PO BOX 832570 RICHARDSON, TX 75083			VANNUCCI, JAMES	
			ART UNIT	PAPER NUMBER
			2828	

DATE MAILED: 01/18/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/675,195

Applicant(s)

WIELSMA, JAN

Examiner

Jim Vannucci

Art Unit

2828

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 15 November 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-41 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-32,34-37 and 39-41 is/are rejected.
- 7) ☒ Claim(s) 33 and 38 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 30 September 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Claim Objections

1. Claim 35 is objected to because of the following informalities: it appears the word "by" should be included before the words "a via" in the second line. Appropriate correction is required.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claims 21-22, 25, 28-29, 32, 36-37 and 40 are rejected under 35 U.S.C. 102(e) as being anticipated by Nagumo et al.(6,501,425).

Claims 21, 28 and 36, figure 1 discloses an antenna trace(4) formed on a substrate(2), a ground plane(3) formed on the substrate(2) where the ground plane(3) is non-overlapping with the antenna trace(4), and an insulation region(8) extending through the substrate(2) and located between the antenna trace(4) and the ground plane(3).

Claims 22, 29 and 37, the ground plane(3) disclosed in figure 1 is coplanar with the antenna trace(4).

Claims 25, 32 and 40, the insulation region(12) disclosed in figure 2 is an opening that extends through the substrate and the insulator is air.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 23-24, 26-27, 30-31, 33-34, 39 and 41 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nagumo in view of Lilly et al.(6,075,485).

Nagumo does not disclose a plurality of insulation regions.

Claims 23, 30 and 39, figures 12-14 of Lilly disclose an insulation region that includes a plurality of insulation regions(32).

Claims 24 and 31, figures 12-14 of Lilly disclose each insulation region(32) being separated by a portion of the substrate(34).

Claims 26, 34 and 41, Lilly discloses an insulation region that is ceramic(col. 8, lines 35-37).

Claim 27, the substrate(34) disclosed in Lilly is a lossy substrate(col. 8, line 41) and the insulation region(32) causes an antenna radiation efficiency of the antenna structure to be about -0.50 or better.

Claim 33, figure 3 of Lilly discloses an opening(14) that could be made by drilling a hole in the substrate(2).

The dielectric arrangement disclosed in Lilly results in weight loss to the antenna.

It would have been obvious to one of ordinary skill in the art at the time of the invention to use the insulation and substrate arrangement disclosed in Lilly with the antenna disclosed in Naguno for weight reduction as disclosed in Lilly.

Allowable Subject Matter

6. Claims 35 and 38 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

7. The following is a statement of reasons for the indication of allowable subject matter. Claims 35 and 38 are primarily distinguished over the prior art by the following limitations.

Regarding claim 35, the limitations concerning forming antenna traces located on opposing surfaces of the substrate interconnected by a via extending through the substrate; and regarding claim 38, the limitations concerning including electrical components mounted on the substrate and interconnected between at least one of the conductive traces and the ground plane to form an operative circuit.

Response to Arguments

8. Applicant's arguments filed November 15, 2004, with respect to the rejection(s) of the previous office action have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new grounds of rejection is made in view of the patents to Nagumo and Lilly.

Correspondence

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Examiner Jim Vannucci whose phone number is (571) 272-1820.

Any inquiry of a general nature or relating to the status of this application should be directed to the Technology Center whose telephone number is (703) 308-0956.

Papers related to Technology Center 2800 applications only may be submitted to Technology Center 2800 by facsimile transmission. Any transmission not to be considered an official response must be clearly marked "DRAFT". The faxing of such papers must conform with the notice published in the Official Gazette, 1096 OG 30 (November 15, 1989). The Technology Center Fax Center number is (703) 872-9306.


James Vannucci